

IN THE SPECIFICATION:

Please amend the passage beginning at the top of page 3, line 22 and ending on page 12, line 12, as follows:

--The present invention relates to a gene which encodes a protein having high-affinity choline transporter activity (~~claim-1~~), a gene which encodes a protein (a) or (b) described below; (a) a protein comprising an amino acid sequence represented by Seq. ID No. 2, (b) a protein comprising an amino acid sequence where one or a few amino acids are deficient, substituted or added in the amino acid sequence represented by Seq. ID No.2, and having high-affinity choline transporter activity (~~claim-2~~), DNA containing a base sequence represented by Seq. ID No. 1 or its complementary sequence and a part or a whole of these sequences (~~claim-3~~), DNA derived from a nematode which hybridizes with DNA comprising a gene according to ~~claim-3~~ the above under a stringent condition, and encodes a protein having high-affinity choline transporter activity (~~claim-4~~), a gene which encodes a protein (a) or (b) described below; (a) a protein comprising an amino acid sequence represented by Seq. ID No. 4, (b) a protein comprising an amino acid sequence where one or a few amino acids are deficient, substituted or added in the amino acid sequence represented by Seq. ID No.4, and having high-affinity choline transporter activity (~~claim-5~~), DNA containing a base sequence represented by Seq. ID No. 3 or its complementary sequence and a part or a whole of these sequences (~~claim-6~~), DNA derived from a rat which hybridizes with DNA comprising a gene according to ~~claim-6~~ the above under a stringent condition, and encodes a protein having high-affinity choline transporter activity (~~claim-7~~), a gene which encodes a protein (a) or (b) described below; (a) a protein comprising an amino acid sequence represented by Seq. ID No. 6, (b) a protein comprising an amino acid sequence where one or a few amino acids are deficient, substituted or added in the amino acid sequence represented by Seq. ID No.6, and having high-affinity choline transporter activity (~~claim-8~~), DNA containing a base sequence represented by Seq. ID No. 5 or its complementary sequence and a part or a whole of these sequences (~~claim-9~~), DNA derived from a human which hybridizes with DNA

comprising a gene ~~according to claim 9~~ containing Seq. ID No. 5 or its complementary sequence or a portion of either under a stringent condition, and encodes a protein having high-affinity choline transporter activity (~~claim 10~~), a gene which encodes a protein (a) or (b) described below; (a) a protein comprising an amino acid sequence represented by Seq. ID No. 8, (b) a protein comprising an amino acid sequence where one or a few amino acids are deficient, substituted or added in the amino acid sequence represented by Seq. ID No.8, and having high-affinity choline transporter activity (~~claim 11~~), DNA containing a base sequence represented by Seq. ID No. 7 or its complementary sequence and a part or a whole of these sequences (~~claim 12~~), and DNA derived from a mouse which hybridizes with DNA comprising a gene ~~according to claim 12~~ comprising a base sequence represented by Seq. ID No. 7 or its complementary sequence or a portion of either under a stringent condition, and encodes a protein having high-affinity choline transporter activity (~~claim 13~~).

The present invention also relates to a protein having high-affinity choline transporter activity (~~claim 14~~), a protein comprising an amino acid sequence represented by Seq. ID No. 2 (~~claim 15~~), a protein comprising an amino acid sequence where one or a few amino acids are deficient, substituted or added in the amino acid sequence represented by Seq. ID No.2, and having nematode high-affinity choline transporter activity (~~claim 16~~), a protein comprising an amino acid sequence represented by Seq. ID No. 4 (~~claim 17~~), a protein comprising an amino acid sequence where one or a few amino acids are deficient, substituted or added in the amino acid sequence represented by Seq. ID No.4, and having rat high-affinity choline transporter activity (~~claim 18~~), a protein comprising an amino acid sequence represented by Seq. ID No. 6 (~~claim 19~~), a protein comprising an amino acid sequence where one or a few amino acids are deficient, substituted or added in the amino acid sequence represented by Seq. ID No.6, and having human high-affinity choline transporter activity (~~claim 20~~), a protein comprising an amino acid sequence represented by Seq. ID No. 8 (~~claim 21~~), and a protein comprising an amino acid sequence where one or a few amino acids are deficient, substituted or added in the amino acid sequence represented by Seq. ID No.8, and having mouse high-affinity choline transporter activity (~~claim 22~~).

The present invention further relates to a fusion protein being constructed by expressing a cDNA encoding fusion proteins of a protein having high-affinity choline transporter activity and a marker protein and/or a peptide tag (~~claim 23~~), the fusion protein according to ~~claim 23~~ the above, wherein the protein having high-affinity choline transporter activity has nematode high-affinity choline transporter activity ~~according to claim 15 or 16 (claim 24)~~ as described above, the fusion protein according to ~~claim 23~~ the above, wherein the protein having high-affinity choline transporter activity has rat high-affinity choline transporter activity ~~according to claim 17 or 18 (claim 25)~~, the fusion protein according to ~~claim 23~~ the above, wherein the protein having high-affinity choline transporter activity has human high-affinity choline transporter activity ~~according to claim 19 or 20 (claim 26)~~, and the fusion protein according to ~~claim 23~~ the above, wherein the protein having high-affinity choline transporter activity has mouse high-affinity choline transporter activity ~~according to claim 21 or 22 (claim 27)~~.

The present invention still further relates to an antibody which specifically binds to a protein having high-affinity choline transporter activity (~~claim 28~~), the described antibody ~~according to claim 28~~, wherein the protein having high-affinity choline transporter activity has nematode high-affinity choline transporter activity ~~according to claim 15 or 16 (claim 29)~~, the described antibody ~~according to claim 28~~, wherein the protein having high-affinity choline transporter activity has rat high-affinity choline transporter activity ~~according to claim 17 or 18 (claim 30)~~, the described antibody ~~according to claim 28~~, wherein the protein having high-affinity choline transporter activity has human high-affinity choline transporter activity ~~according to claim 19 or 20 (claim 31)~~, the described antibody ~~according to claim 28~~, wherein the protein having high-affinity choline transporter activity has mouse high-affinity choline transporter activity ~~according to claim 21 or 22 (claim 32)~~, and the described antibody according to any of the above one of claims 28 to 32, wherein the antibody is a monoclonal antibody (~~claim 33~~).

The present invention also relates to a host cell containing an expression system which can express a protein having high-affinity choline transporter activity (~~claim 34~~), the host cell ~~according to claim 34~~, wherein the protein having high-affinity choline

transporter activity has nematode high-affinity choline transporter activity ~~according to claim 15 or 16 (claim 35)~~, the host cell ~~according to claim 34~~, wherein the protein having high-affinity choline transporter activity has rat high-affinity choline transporter activity ~~according to claim 17 or 18 (claim 36)~~, the host cell ~~according to claim 34~~, wherein the protein having high-affinity choline transporter activity has human high-affinity choline transporter activity ~~according to claim 19 or 20 (claim 37)~~, and the host cell ~~according to claim 34~~, wherein the protein having high-affinity choline transporter activity has mouse high-affinity choline transporter activity ~~according to claim 21 or 22 (claim 38)~~.

The present invention further relates to a non-human animal in which function of a gene which encodes a protein having high-affinity choline transporter activity is deficient or overexpresses on its chromosome (~~claim 39~~), the non-human animal ~~according to claim 39~~, wherein the protein having high-affinity choline transporter activity has nematode high-affinity choline transporter activity ~~according to claim 15 or 16 (claim 40)~~, the non-human animal ~~according to claim 39~~, wherein the protein having high-affinity choline transporter activity has rat high-affinity choline transporter activity ~~according to claim 17 or 18 (claim 41)~~, the non-human animal ~~according to claim 39~~, wherein the protein having high-affinity choline transporter activity has human high-affinity choline transporter activity ~~according to claim 19 or 20 (claim 42)~~, the non-human animal ~~according to claim 39~~, wherein the protein having high-affinity choline transporter activity has mouse high-affinity choline transporter activity ~~according to claim 21 or 22 (claim 43)~~, and the non-human animal according to any of the above one of claims 39 to 43, wherein the non-human animal is a mouse or a rat (~~claim 44~~).

The present invention still further relates to a preparing method of a cell having high-affinity choline transporter activity characterized in introducing the gene or the DNA ~~according to any one of claims 8 to 10 as described above~~ into a cell whose function of a gene which encodes a protein having high-affinity choline transporter activity is deficient on its chromosome (~~claim 45~~), the preparing method of a cell having high-affinity choline transporter activity ~~according to claim 45~~, wherein the cell having high-affinity choline transporter activity is integrated with the gene or the DNA ~~according to any one of claims 8 to 10 as described above~~ in its chromosome, and stably

shows high-affinity choline transporter activity (~~claim 46~~), and a cell having high-affinity choline transporter activity being obtainable by the preparing method of a cell having high-affinity choline transporter activity as described according to claim 45 or 46 (~~claim 47~~).

The present invention also relates to a screening method of a promoter or a suppressor of high-affinity choline transporter activity characterized in measuring/evaluating high-affinity choline transporter activity of the protein having high-affinity choline transporter activity according to the above ~~any one of claims 14 to 22~~ in the presence of a subject material (~~claim 48~~), a screening method of a promoter or a suppressor of high-affinity choline transporter activity, or of high-affinity choline transporter expression characterized in comprising the steps of: a cell membrane or a cell which expresses a protein having high-affinity choline transporter activity is cultivated in vitro in the presence of a subject material; the activity and/or the expression amount of a protein having high-affinity choline transporter activity in the cell membrane or the cell is measured/evaluated (~~claim 49~~), the screening method of a promoter or a suppressor of high-affinity choline transporter activity, or of high-affinity choline transporter expression ~~according to claim 49~~, wherein the cell membrane or the cell which expresses a protein having high-affinity choline transporter activity is the host cell containing an expression system which can express a protein having high-affinity choline transporter activity according to any of the above ~~one of claims 34 to 38~~, or is the cell having high-affinity choline transporter activity according to ~~claim 47~~ (~~claim 50~~) the above, the screening method of a promoter or a suppressor of high-affinity choline transporter activity, or of high-affinity choline transporter expression according to ~~any one of claims 48 to 50~~ the above, wherein the protein having high-affinity choline transporter activity is a recombinant protein (~~claim 51~~), a screening method of a promoter or a suppressor of high-affinity choline transporter activity, or of high-affinity choline transporter expression characterized in comprising the steps of: a cell obtained from the non-human animal according to ~~any one of claims 39 to 44~~ of the above is cultivated in vitro in the presence of a subject material; the activity and/or the expression amount of a protein having high-affinity choline transporter activity in the cell is measured/evaluated (~~claim~~

52), a screening method of a promoter or a suppressor of high-affinity choline transporter activity, or of high-affinity choline transporter expression characterized in administering a subject material to a non-human animal and then evaluating the activity and/or the expression amount of a protein having high-affinity choline transporter activity (~~claim 53~~), a screening method of a promoter or a suppressor of high-affinity choline transporter activity, or of high-affinity choline transporter expression characterized in administering a subject material to a non-human animal whose function of a gene encoding a protein having high-affinity choline transporter activity is deficient or overexpresses on its chromosome, and then evaluating the activity and/or the expression amount of a protein having high-affinity choline transporter activity (~~claim 54~~), a screening method of a promoter or a suppressor of high-affinity choline transporter activity, or of high-affinity choline transporter expression characterized in administering a subject material to a non-human animal whose function of a gene encoding a protein having high-affinity choline transporter activity is deficient or overexpresses on its chromosome, and then evaluating the activity and/or the expression amount of a protein having high-affinity choline transporter activity in comparison with the case using wild-type non-human animal (~~claim 55~~), and the screening method of a promoter or a suppressor of high-affinity choline transporter activity, or of high-affinity choline transporter expression according to any ~~one of claims 52 to 55~~ of the above, wherein the non-human animal is a mouse or a rat (~~claim 56~~).

The present invention further relates to a material which promotes activity or expression of a protein having high-affinity choline transporter activity being obtainable by the screening method ~~according to any one of claims 48 to 56~~ (~~claim 57~~) as described above, a material which suppresses activity or expression of a protein having high-affinity choline transporter activity being obtainable by the screening method according to ~~any one of claims 48 to 56~~ (~~claim 58~~) the above, a medical constituent characterized in being used for a medical treatment for a patient who needs elevation of the activity or enhancement of the expression of a high-affinity choline transporter, and containing the protein according to any ~~one of claims 14 to 22~~ of the above, and/or the material which promotes activity or expression of a protein having high-affinity choline transporter

activity according to ~~claim 57~~ the above as an active component (~~claim 59~~), and a medical constituent characterized in being used for medical treatment for a patient who needs suppression of the activity or the expression of a high-affinity choline transporter, and containing the protein according to ~~any one of claims 14 to 22~~ the above, and/or the material which suppresses the activity or the expression of a protein having high-affinity choline transporter activity according to ~~claim 58~~ the above as an active component (~~claim 60~~).

The present invention still further relates to a diagnostic method for diseases relating to the expression or the activity of a high-affinity choline transporter characterized in comparing a DNA sequence encoding a high-affinity choline transporter in a sample to a DNA sequence encoding the protein ~~according to claim 19 or 20 (claim 61)~~ as described above, a diagnostic probe for Alzheimer's disease comprising a whole or a part of an antisense strand of DNA or RNA encoding the protein ~~according to claim 19 or 20 (claim 62)~~ as described above, and a diagnostic drug for Alzheimer's disease characterized in containing the diagnostic probe as described above ~~according to claim 62~~ and/or the antibody as described above ~~according to any one of claims 28 to 33 (claim 63)~~.--